

# Translation of the original German operating instructions

STAHLWILLE

Software

Sensomaster

Status 11/2012

## Introduction

These operating instructions are designed to help you use the SENSOMASTER effectively and economically.

## Target group for these operating instructions

These operating instructions are intended for the following personnel:

- Personnel who define fasteners
- Personnel who define sequences
- Personnel who set-up the MANOSKOP® 714, hereinafter referred to as the torque wrench, for use for work

These persons must have basic computer and English skills and must be familiar with using "Microsoft Windows®". They must also have a basic knowledge of how to create fasteners and sequences. Every one of the aforementioned persons must have taken note of and understood the contents of these operating instructions. The operating instructions must be available to the aforementioned persons.

If you do not understand any of the information in these operating instructions or information is missing, please contact  
EDUARD WILLE GmbH & Co. KG.

The full address can be found on the last page of these operating instructions.

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## Introduction to the operating instructions

### Availability

You must always keep a complete and legible copy of the operating instructions at the location at which the software is used.

### Style conventions


Defined style conventions are used for certain elements in the operating instructions. This therefore makes it easy for you to recognise the type of text concerned:

Standard text,


**BUTTONS**

- lists or

➤ actions.

 Notes with this symbol contain information about how to use the software economically.


## Installing the Sensomaster software

 A description of how to install the software is contained in the operating instructions for the MANOSKOP® 714.

## The functions of the programme

The SENSOMASTER software allows you to carry out the following activities for working with the MANOSKOP® 714 electromechanical torque and angle wrench:

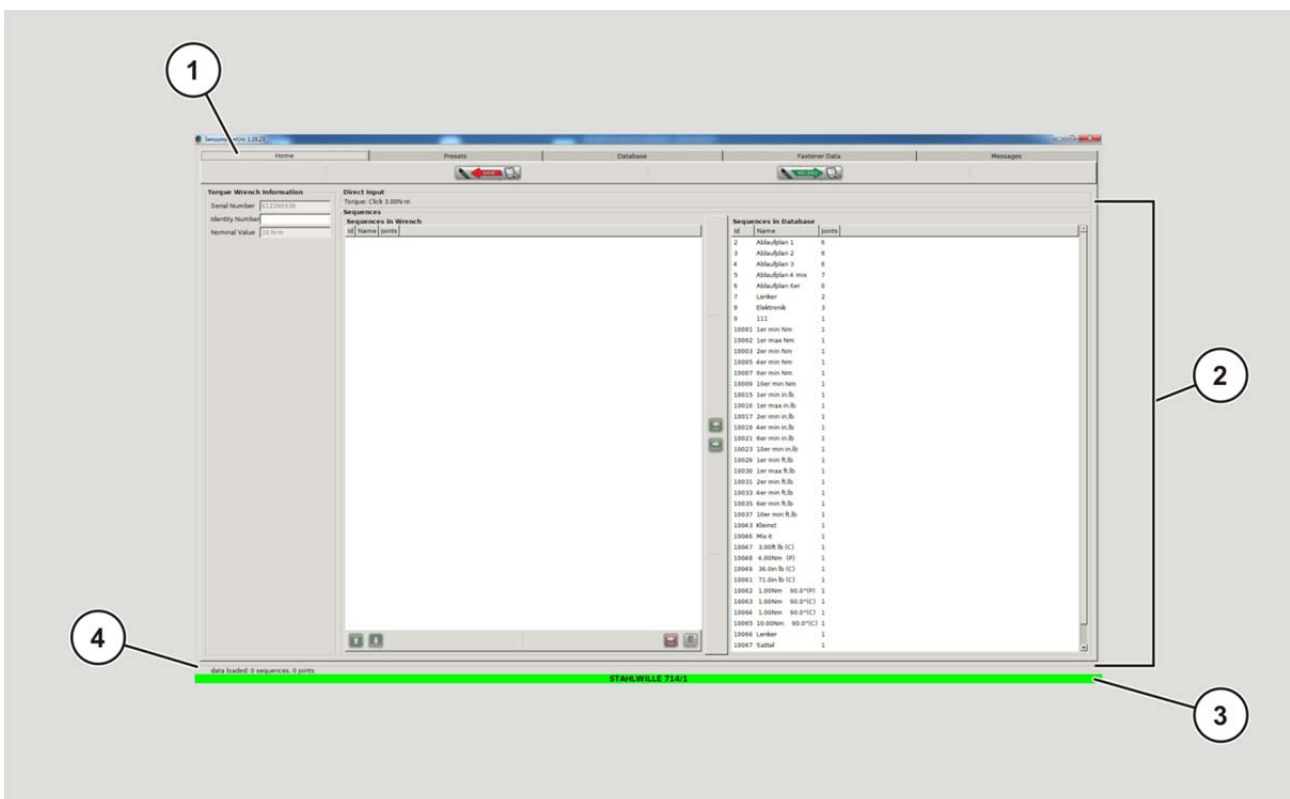
- Defining fasteners on a PC
- Defining sequences on a PC
- Transferring data between a PC and the internal torque wrench memory
- Managing fasteners
- Managing sequences
- Managing fastener data
- User-defined configuring of the menu interface for the torque wrench
- Transferring a menu language to the internal torque wrench memory
- Specifying an identification number

 Read the operating instructions for the MANOSKOP® 714 electromechanical torque and angle wrench as well.

## Explanation of the programme interface

After the programme has started you will see the programme interface. The programme interface is divided into the following areas:
















- Tab for selecting a specific area of the programme (1)
- Work area (2)
- Display indicating whether a torque wrench is connected to the USB port and is switched on (3)
- Status bar (4)



The following sections explain the functions available to you in the different areas of the programme.

## Operational elements

The programme interface provides you with a range of operational elements and displays. These are explained in further detail in the following table.

Button/Display	Explanation	Button/Display	Explanation
	Transfer data from the PC to the torque wrench, e. g. a sequence or a menu configuration		Change the order where there is more than one existing fastener or sequence (move down)
	Transfer data from the torque wrench to the PC, e. g. sequences saved internally		Save a sequence in the programme database
	Add fasteners or sequences from the database to the internal memory in the torque wrench		Create the copy of a fastener or sequence from the internal torque wrench memory and add it to the programme database
	Add fasteners or sequences from the internal memory in the torque wrench to the database		Cancel an operation without saving
	Change the order where there is more than one existing fastener or sequence (move up)		Edit a fastener or sequence
			Create a new fastener
			Delete a fastener or sequence
			The applicable entry is displayed in the torque wrench menu
			The applicable entry is not displayed in the torque wrench menu
			The menu is not available in this mode, e. g. angle evaluation in the "Torque" measurement method

## Context menus

The areas of the programme interface listed below contain context menus for you to use.

- "Home" tab: "Sequences" area
- "Database" tab, "Sequences" tab
- "Database" tab, "Fastener" tab
- "Fastener Data" tab
- "Messages" tab: "Message List" area

You can use the entries to carry out specific functions.

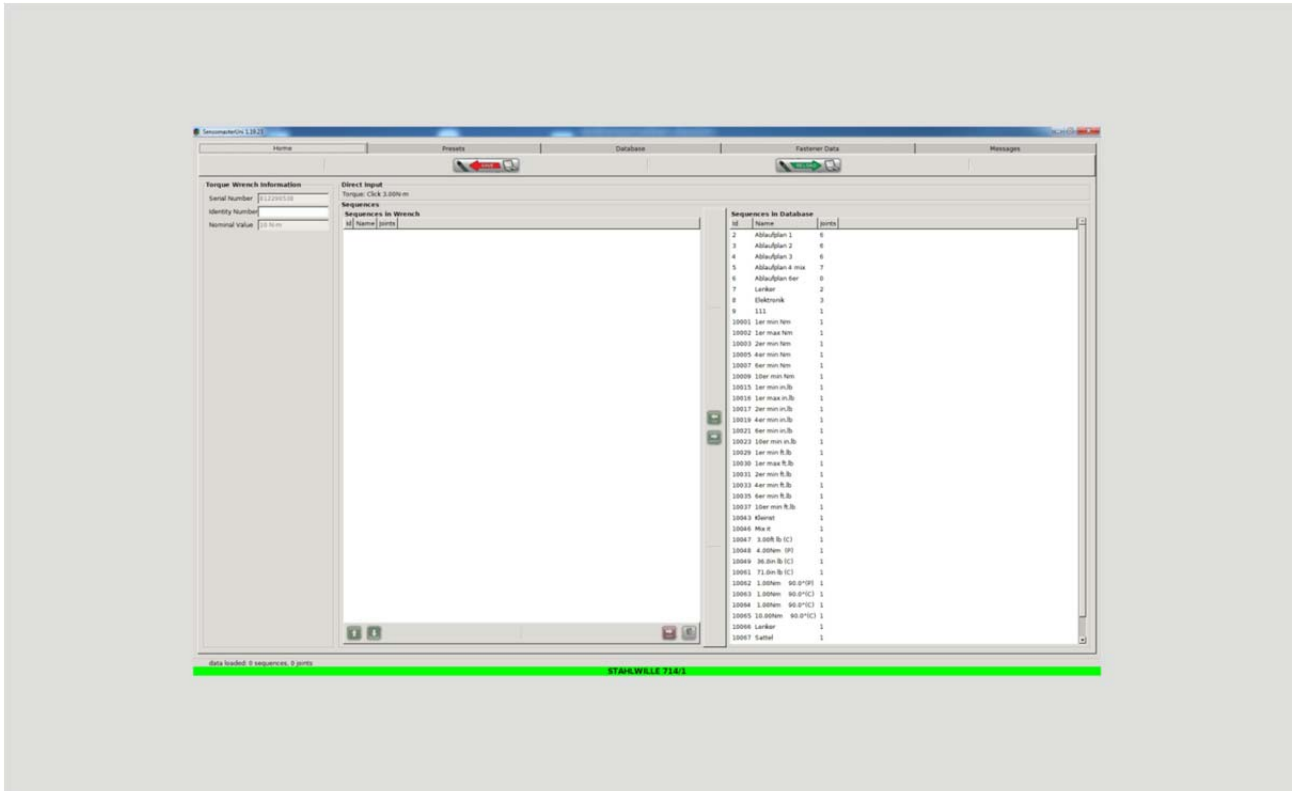
Entry	Explanation
Reset	Reset a sorting sequence
Cancel	Cancel an operation without saving
Reorganise	Specify a new sorting sequence
Visible columns	<p>This enables you to select which columns in the current area are to be displayed:</p> <ul style="list-style-type: none"> <li>• ID</li> <li>• Name</li> <li>• Type</li> <li>• Target</li> <li>• Sequences</li> <li>• Fastener data</li> </ul>
Options	<ul style="list-style-type: none"> <li>• Fill with standard order (instead of current)</li> <li>• Unfold selected columns</li> <li>• Colourise by depth</li> <li>• Display children count</li> </ul>
Open all	Display all masked out additional entry information
Close all	Mask out all displayed additional entry information

Entry	Explanation
Write Excel file	Export selected data to an XLS file
Write CSV file	Export selected data to a CSV file
Ranking	<p>This enables you to select the basis on which the data are sorted:</p> <ul style="list-style-type: none"> <li>• Off</li> <li>• ID</li> <li>• Name</li> <li>• Type</li> <li>• Target</li> <li>• Sequences</li> <li>• Fastener data</li> </ul>



## "Home" tab

The "Home" tab provides you with general information about the connected torque wrench. In addition you can also upload the configured sequences to the internal memory of the connected torque wrench.



### "Torque Wrench Information" area

This area provides you with the following information on the connected torque wrench:

- The serial number is read out and displayed
- If an ID number has been assigned, it is displayed here. If not, you can assign and save an ID number here.
- The nominal value (maximum value of the measurement range) is read out and displayed

### "Direct Input" area

The fastener data which are currently set, e.g. direct input, mode and torque are displayed here.

### "Sequences" area

This area is divided into the following areas:

- Sequences in wrench
- Sequences in database

"Sequences in Wrench" displays the sequences saved in the wrench. In addition you can also add sequences to this area from the database and sort them and transfer them to the torque wrench. You can also add a sequence to your database from another torque wrench.

The sequences saved in the database are displayed in the "Sequences in Database" area.

### "Presets" tab

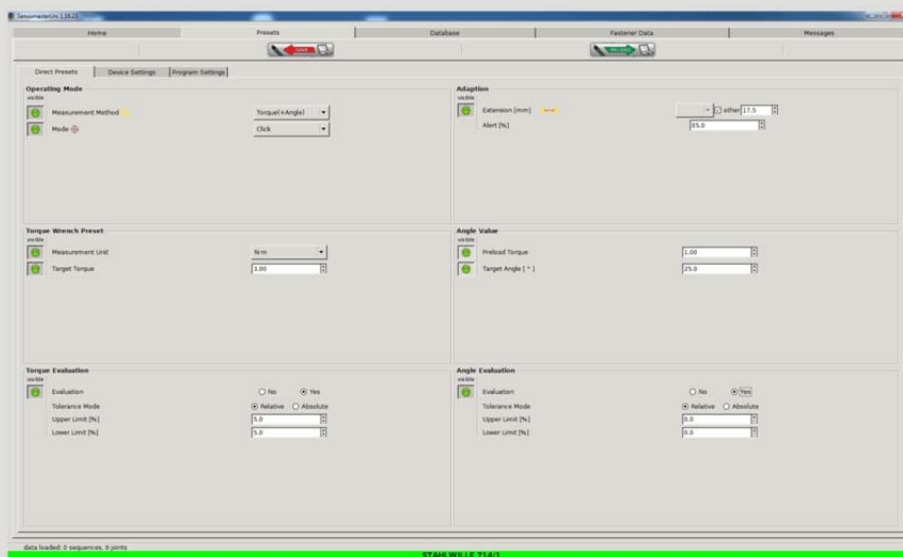
The "Presets" tab enables you to configure the torque wrench on the PC. The tab for doing this is divided into the "Direct Presets" and "Device Settings" tabs.

#### "Direct Presets" tab

"Direct Presets" enables you to specify concrete values for a fastener, which you can then transfer to the torque wrench:

- Specifying a measurement method
- Specifying a mode
- Specifying a unit

- Specifying a target value
- Setting a torque evaluation
- Entering relative or absolute tolerances for the torque, along with corresponding limits
- Setting an extension
- Setting a value for the alert
- Specifying preload torque and a target value for the angle for the "Angle", "Torque-Angle" and "Angle-Torque" measurement methods.
- Specifying an evaluation for the angle
- Entering relative or absolute tolerances for the angle, along with corresponding limits



You can switch the display from green to red in each of the respective areas to influence the torque wrench menu.

## Display



## Explanation

The applicable entry is displayed in the torque wrench menu



The applicable entry is not displayed in the torque wrench menu

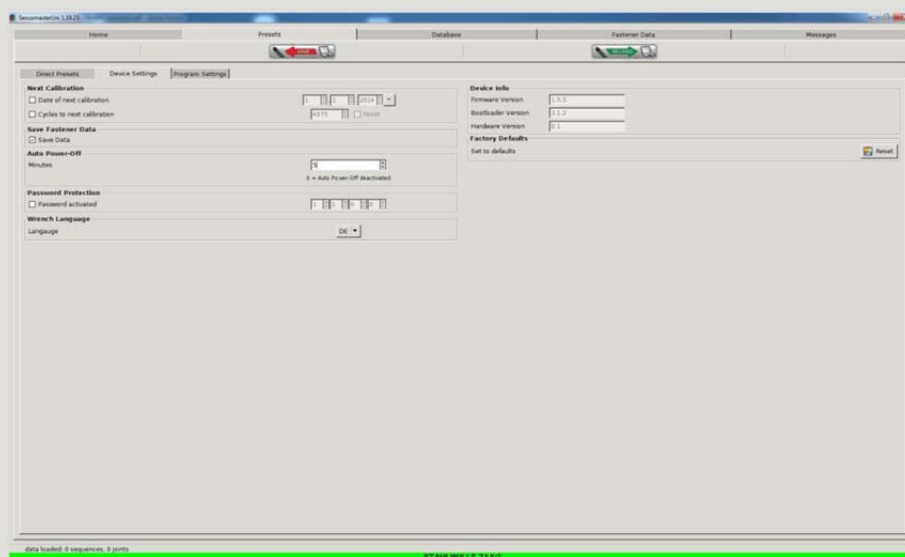


The menu is not available in this mode, e. g. angle evaluation in the "Torque" measurement method

## "Device Settings" tab

The "Device Settings" tab enables you to undertake the following settings or display the following information:

- Set the date for the next calibration
- Set the number of cycles before the next calibration
- Save the fasteners in the internal memory of the torque wrench
- Set a time for the torque wrench to be switched off automatically
- Turn on the password protection for access to the torque wrench configuration menu
- Select and transfer a menu language for the torque wrench
- Display information on the torque wrench
  - Firmware version
  - Bootloader version
  - Hardware version
- Reset the torque wrench to the factory settings (Set to defaults)



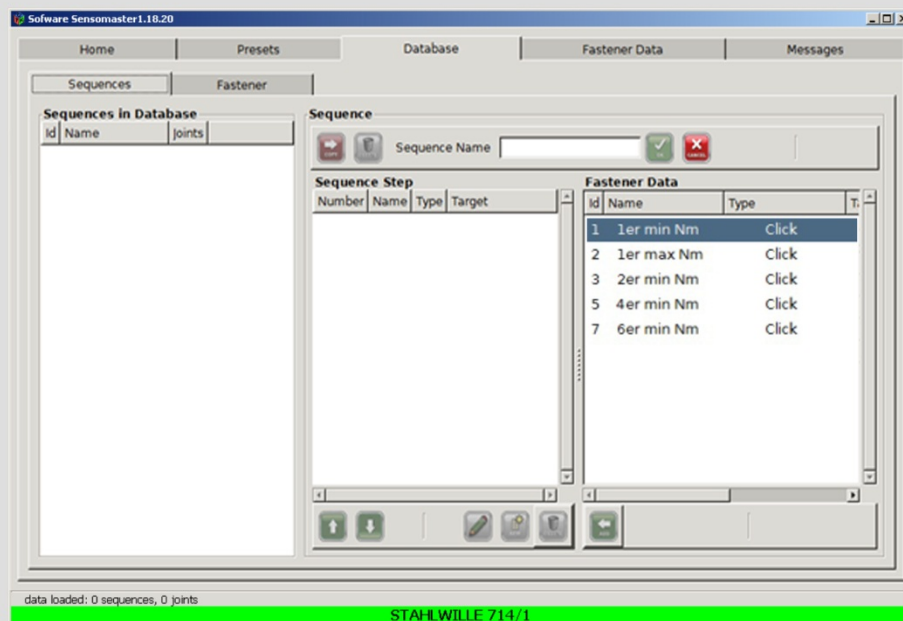
## "Database" tab

The "Database" tab enables you to create or edit fasteners and sequences. You can save and manage them in the database on the PC. The "Database" tab is therefore divided into the "Sequences" and "Fastener" tabs.

## "Sequences" tab

This enables you to:

- Create sequences from the fasteners saved in the database
- Edit sequences saved in the database
- Delete sequences saved in the database



## "Fastener" tab

This enables you to:

- Copy an existing fastener
  - Create a new fastener
  - Edit an existing fastener
  - Delete a fastener from the database
- ① Use the fasteners saved in the database to create sequences.

ID	Name	Type	Target	Sequenzen	Fastener-Daten
1	1st min hex	Click	1.000 m	0	0
2	1st max hex	Click	10.000 m	0	0
3	2nd min hex	Click	2.000 m	0	0
4	4th min hex	Click	4.000 m	0	0
7	6th min hex	Click	6.000 m	0	0
9	10th min hex	Click	10.000 m	0	0
15	1st min in.b	Click	0.000 m	0	0
16	1st max in.b	Click	90.000 m	0	0
17	2nd min in.b	Click	18.000 m	0	0
18	4th min in.b	Click	36.000 m	0	0
21	6th min in.b	Click	54.000 m	0	0
23	10th min in.b	Click	90.000 m	0	0
29	1st min R.b	Click	0.700 m	0	0
30	1st max R.b	Click	7.500 m	0	0
31	2nd min R.b	Click	1.500 m	0	0
33	4th min R.b	Click	3.000 m	0	0
35	6th min R.b	Click	4.500 m	0	0
37	10th min R.b	Click	7.500 m	0	0
43	Max m	Click	1.000 m	0	1
46	Max t	Click	10.000 m	0	0
47	3.000 m (C)	Click	3.000 m	0	7
48	4.000 m (H)	Push-hold	4.000 m	0	5
49	30.000 m (C)	Click	30.000 m	0	4
61	71.000 m (C)	Click	71.000 m	0	4
62	1.000m - 90.0°(C)	Push-hold(Angle) in Torque	1.000 m 90°	0	2
63	1.000m - 90.0°(C)	Click(Angle) in Torque	1.000 m 90°	0	2
64	1.000m - 90.0°(C)	Click(Angle)	10.000 m 90°	0	2
65	10.000m - 90.0°(C)	Click(Angle) in Angle	10.000 m 90°	0	1
66	Linker	Click	1.000 m	2	0
67	Right	Click	1.000 m	1	0
68	Right	Click	1.000 m	2	0
69	111	Click	1.000 m	0	0

### "Fastener Data" tab

The "Fastener Data" tab shows you details about the completed fasteners. For example whether the fastener was completed correctly or failed.

This enables you to:

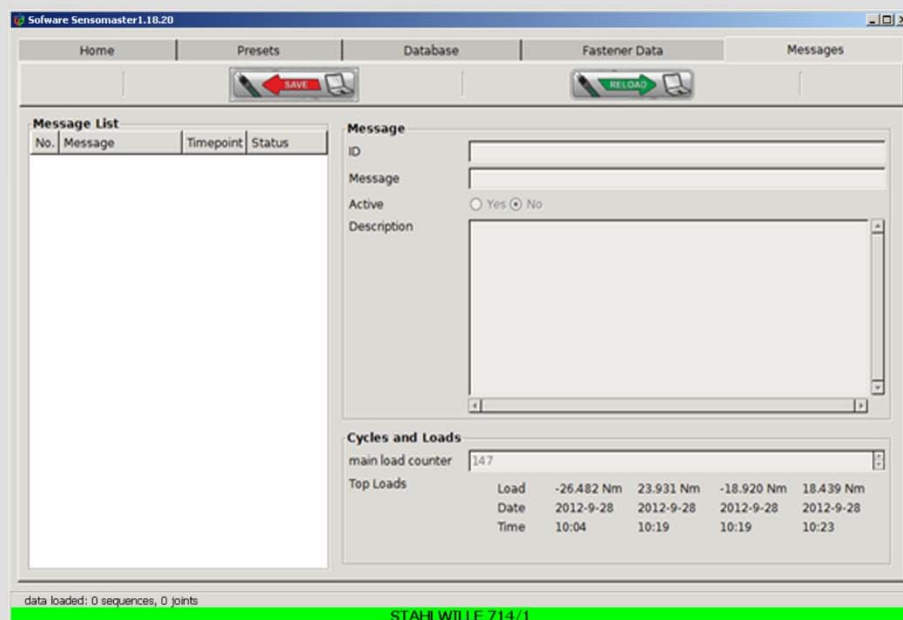
- Carry out an evaluation of the completed fasteners
- Export fastener data
- Filter fasteners on the basis of certain criteria

SN	ID	direct(indirect)	Sequence	Setting	Target	Torque	Tolerance	Target	Angle	Tolerance	Actual	Measurement	Measurement	Time	Result
#12200508															
#12200510															

## "Messages" tab

The "Messages" tab shows you the following information:

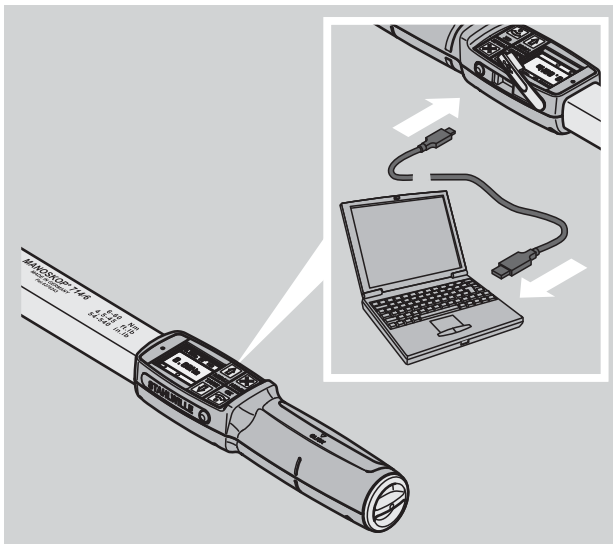
- A list of the messages issued on the torque wrench, including detailed information such as the date and time
- The number of cycles completed up to the current time
- The four top loads, with date and time



## Using the programme

### Connecting the torque wrench to the PC

- ❗ Refer to the corresponding instructions for the torque wrench to read how to prepare it for use.
- Make sure that the torque and angle wrench is **switched on**.
- Fold the PC connection socket cover to the side.
- Insert the micro USB connector to stop into the PC connection socket in one movement.
- Insert the USB connector into the PC's USB connection.



### Starting the programme

- Click on "Home".
  - Select "Programmes".
  - Select the "STAHLWILLE" programme group.
  - Select the "SensomasterNew" entry.
  - Click on the "Sensomaster" entry.
- The "Sensomaster" programme starts.

### Configuring the torque wrench

The steps described in this chapter are ones that you should carry out as a general rule whenever you start using a new torque wrench. However, if the basic configurations on the torque wrench have already been completed, you can still make changes to existing settings.

- Switch on the torque wrench which is connected to the PC.

#### Allocation of an identification number

If you want to allocate an identification number for the torque wrench, proceed as follows:

- Select the "Home" tab.
- Click on the "Identity Number" field in the "Torque Wrench Information" area.
- Enter the desired identification number.

The identification number must not exceed a maximum of 16 characters.

- To save the settings, click on the "Save" button.

The following warning appears.



- If you want to cancel the operation, click on the "Cancel" button.

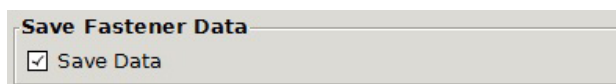
The torque wrench switches off and then on again. The changes which were made will have been saved.



### Saving sequences in the torque wrench

If you want to automatically save the sequences of the sequences in the torque wrench, proceed as follows:

- Select the "Presets" tab.
- Select the "Device Settings" tab.
- Mark the "Save Data" checkbox in the "Save Fastener Data" area.



- To save the settings, click on the "Save" button.
- The following warning appears.



- If you want to cancel the operation, click on the "Cancel" button.

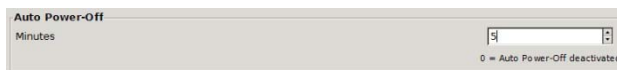
The torque wrench switches off and then on again. The changes which were made will have been saved.

### Setting the automatic shut-off time for the torque wrench

You can set a time after which the torque and angle wrench switches off automatically when not in use. To set this time, proceed as follows:

- Select the "Presets" tab.
- Select the "Device Settings" tab.
- Click on the "Minutes" field in the "Auto Power-Off" area.
- Enter the time using the keyboard or the arrows adjacent to the field.

You can enter a time of anything up to 60 minutes.



- ❗ If you enter "0" minutes, the auto power-off function is deactivated.

- To save the settings, click on the "Save" button.
- The following warning appears.



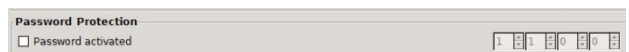
- If you want to cancel the operation, click on the "Cancel" button.

The torque wrench switches off and then on again. The changes which were made will have been saved.

### Setting password protection for the "Configuration" menu

Access to the "Configuration" menu in the torque wrench can be protected by means of a password. To set a password, proceed as follows:

- Select the "Presets" tab.
- Select the "Device Settings" tab.
- Mark the "Password activated" checkbox in the "Password Protection" area.
- Enter one number in each of the four fields for the password respectively using the keyboard or the arrows adjacent to the field.



➤ To save the settings, click on the "Save" button.  
The following warning appears.



➤ If you want to cancel the operation, click on the "Cancel" button.

The torque wrench switches off and then on again.  
The changes which were made will have been saved.

### Changing the menu language

The following menu languages can be loaded in the internal torque and angle wrench memory:

- German (factory setting)
- English
- Italian
- Spanish
- French
- Dutch
- Danish
- Norwegian
- Swedish
- Finnish
- Polish

❗ Other languages are available on request.

➤ Select the "Presets" tab.  
➤ Select the "Device Settings" tab.  
➤ Select the desired menu language in the "Wrench Language" area.  
➤ To save the settings, click on the "Save" button.  
The following warning appears.



➤ If you want to cancel the operation, click on the "Cancel" button.

The torque wrench switches off and then on again.  
The changes which were made will have been saved.

### Resetting the factory settings

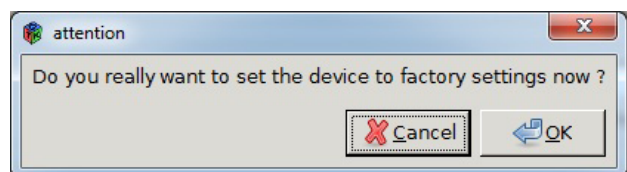
- ❗ Before resetting to the factory settings, back up the sequences contained in the torque wrench. The contents of the internal memory are deleted when the factory settings are reset.

If you want to reset the torque wrench to the factory settings, proceed as follows:

➤ Select the "Presets" tab.  
➤ Select the "Device Settings" tab.  
➤ Click on the "Reset" button in the "Factory Defaults" area.



The following warning appears.



➤ If you want to cancel the operation, click on the "Cancel" button.  
➤ If you want to execute the operation, click on "OK".

The torque wrench switches off and then on again.  
The changes which were made will have been saved.

### Configuring the menu display in the torque wrench

The Sensomaster software allows you to configure the menu in the torque wrench. You can mask out menu entries for the user of the torque wrench. This enables you to ensure that it is not possible for any unintended changes to be made directly in the torque wrench.

To mask out specific menu entries in the menu of torque wrench, proceed as follows:

- Select the "Presets" tab.
- Select the "Direct Presets" tab.

The "Direct Presets" menu entries which can be influenced are provided with a colour display. A green display means that the menu entry concerned is visible in the menu of the torque wrench. A red display means that the menu entry concerned is not visible in the menu of the torque wrench. You can switch between green and red by clicking on the colour display with the mouse.

- Carry out the desired settings.
- To save the settings, click on the "Save" button.

The following warning appears.



- If you want to cancel the operation, click on the "Cancel" button.

The torque wrench switches off and then on again. The changes which were made will have been saved.

### Creating a fastener

The Sensomaster software provides you with a number of different options for creating a fastener:

- Define a fastener in "Direct Presets" and transfer it to the torque wrench
- Define a fastener in the "Fastener Database" and save it for another use
- Copy and modify an existing fastener in the "Fastener Database"

#### Using "Direct Presets"

"Direct Input" enables you to specify concrete values for a fastener. You define the fastener using the Sensomaster software. Afterwards you transfer it to the torque wrench. Then you can execute the fastener. This method corresponds to the menu navigation-based definition of a fastener in the direct input of the torque wrench.

- ❗ If you define a fastener in the "Direct Presets", you cannot save it directly to the fastener database.

To define a fastener in "Direct Presets", proceed as follows:

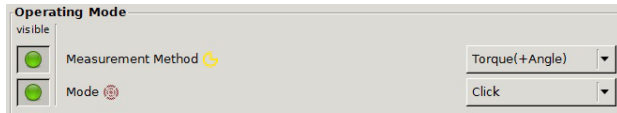
- Select the "Presets" tab.
- Select the "Direct Presets" tab.

The "Direct Presets" tab contains the following areas:

- "Operating Mode"
- "Torque Wrench Preset"
- "Torque Evaluation"
- "Adaption"
- "Angle Value"
- "Angle Evaluation"

## "Operating Mode"

The "Operating Mode" area enables you to set the desired measurement method and mode for the torque wrench.



You can choose from the following measurement methods:

- Torque
- Angle
- Torque(+Angle)
- Angle(+Torque)

- Select the desired measurement method from the list.
- Specify whether the corresponding menu entry is to be visible for the user in the menu of the torque wrench.

Green means that the menu entry is visible and red means that the menu entry is hidden.

You can choose from the following modes:

- Track
- Peak
- Click

- Select the desired mode from the list.
- Specify whether the corresponding menu entry is to be visible for the user in the menu of the torque wrench.

Green means that the menu entry is visible and red means that the menu entry is hidden.

## "Torque Wrench Preset"

The "Torque Wrench Presets" area enables you to set the desired measurement unit and the target torque for the torque wrench.



You can choose from the following measurement units:

- N m
- in lb
- ft lb

- Select the desired measurement unit from the list.
- Specify whether the corresponding menu entry is to be visible for the user in the menu of the torque wrench.

Green means that the menu entry is visible and red means that the menu entry is hidden.

- Enter the target value using the keyboard or the arrows adjacent to the field.

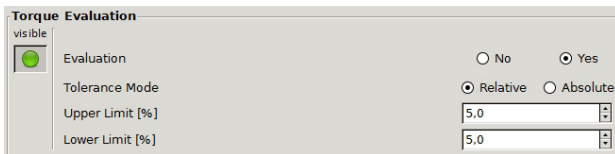
You can only enter values which are within the measurement range of the torque wrench.

- Specify whether the corresponding menu entry is to be visible for the user in the menu of the torque wrench.

Green means that the menu entry is visible and red means that the menu entry is hidden.

## "Torque Evaluation"

The "Torque Evaluation" area enables you to specify whether torque tolerances for the fastener have to be taken into account.



The screenshot shows the "Torque Evaluation" menu with a "visible" indicator (green circle). It contains the following options:

- Evaluation:** Radio buttons for "No" and "Yes" (selected).
- Tolerance Mode:** Radio buttons for "Relative" (selected) and "Absolute".
- Upper Limit [%]:** A numeric field with the value "5,0".
- Lower Limit [%]:** A numeric field with the value "5,0".

- Select under "Evaluation" whether tolerances have to be taken into account or not.
- Select under "Tolerance Mode" whether the tolerances are to be specified as relative or absolute values.

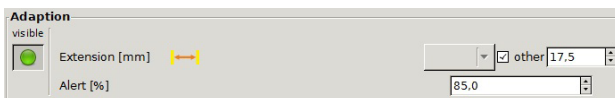
Relative means that the values for the limits are in percent. Absolute means that the values for the limits are in the selected units.

- Enter the upper and lower limits using the keyboard or the arrows adjacent to the field.
- Specify whether the corresponding menu entry is to be visible for the user in the menu of the torque wrench.

Green means that the menu entry is visible and red means that the menu entry is hidden.

\*Adaption

The "Adaption" area enables you to set the extension and an alert for the fastener.



The screenshot shows the "Adaption" menu with a "visible" indicator (green circle). It contains the following options:

- Extension [mm]:** A dropdown menu with a yellow double-headed arrow icon next to it. A checkbox labeled "other" is checked, followed by a numeric field with the value "17,5".
- Alert [%]:** A numeric field with the value "85,0".

- If you use STAHLWILLE adaption for your work, select the applicable extension from the list.
- If you use other adaption for your work, you first have to specify the extension.
- Mark the "other" checkbox.
- Enter the determined extension using the keyboard or the arrows adjacent to the field.
- Specify whether the corresponding menu entry is to be visible for the user in the menu of the torque wrench.

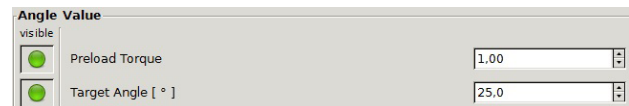
Green means that the menu entry is visible and red means that the menu entry is hidden.

When you enter a value next to "Alert", you specify the alert limit. When the alert limit is reached, the signal lamps on the torque wrench light up yellow and the value on the display is shown in yellow.

- Enter a value for the alert limit using the keyboard or the arrows adjacent to the field.

## "Angle Value"

The "Angle Value" area enables you to set the preload torque for the angle value for the fastener.



The screenshot shows the "Angle Value" menu with a "visible" indicator (green circle). It contains the following options:

- Preload Torque:** A numeric field with the value "1,00".
- Target Angle [°]:** A numeric field with the value "25,0".

- Enter the preload value using the keyboard or the arrows adjacent to the field.
- Enter the target angle for the angle value using the keyboard or the arrows adjacent to the field.
- Specify whether the corresponding menu entry is to be visible for the user in the menu of the torque wrench.

Green means that the menu entry is visible and red means that the menu entry is hidden.

## "Angle Evaluation"

The "Angle Evaluation" area enables you to specify whether angle tolerances for the fastener have to be taken into account.



- Select under "Evaluation" whether tolerances have to be taken into account or not.
- Select under "Tolerance Mode" whether the tolerances are to be specified as relative or absolute values.

Relative means that the values for the limits are in percent. Absolute means that the values for the limits are in degrees.

- Enter the upper and lower limits using the keyboard or the arrows adjacent to the field.
- Specify whether the corresponding menu entry is to be visible for the user in the menu of the torque wrench.

Green means that the menu entry is visible and red means that the menu entry is hidden.

When you have created the fastener in "Direct Presets" you have to transfer the data to the torque wrench.

- To save the settings, click on the "Save" button.
- The following warning appears.



- If you want to cancel the operation, click on the "Cancel" button.

## Creating a fastener for the database

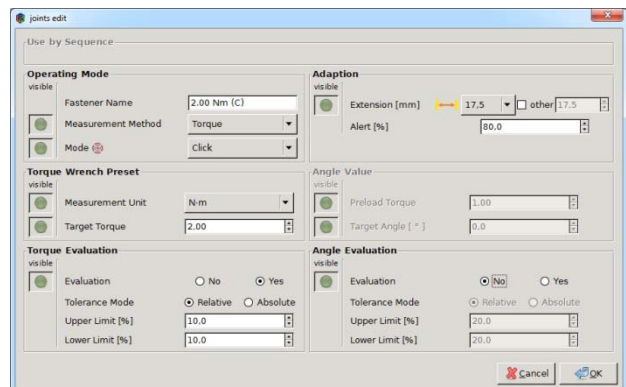
- ❗ The database of the Sensomaster software does not contain any entries on installation.
- ❗ You can create multiple fasteners with an identical name.

When you define a fastener in the fastener database, it is saved automatically on the PC. You can create a copy of the fastener and change it into a new fastener. You can compile sequences from the fasteners saved in the fastener database.

To define a fastener in the fastener database, proceed as follows:

- Select the "Database" tab.
- Select the "Fastener" tab.
- Click on the "Create new fastener" button.

The window for creating a fastener is displayed.



- Enter a name for the fastener in the "Setting Name" field.

- ❗ Data is entered in virtually the same way as for the "Direct Presets" tab, see page 19. The difference is that the function for masking out and showing entries in the menu is deactivated.

- To save the fastener which has been created in the fastener database, click on the "OK" button.

The fastener is saved in the fastener database and is available for further use.

### Editing saved fasteners

- ❗ Fasteners cannot be added, if fastener data is available.  
In this case you can copy the fastener and store it with changed parameters.
- To edit a fastener in the "Fastener Database", mark the fastener in the "Fastener Database" window.
- Click on the "Edit fasteners" button.
- Carry out the desired changes in the window displayed.
- Save the changes with "OK".

### Copying saved fasteners

If you want to create a fastener which is similar to one which already exists, you can copy the existing fastener. You can then edit the copied fastener.

- To copy a fastener in the "Fastener Database", mark the fastener in the "Fastener Database" window.
- Click on the "Copy fastener data" button.
- Enter a name for the fastener in the "Setting Name" field in the window displayed.
- Carry out the changes in the window displayed.
- Save the changes with "OK".

### Deleting saved fasteners

To delete a fastener from the fastener database, proceed as follows:

- Mark the fastener in the fastener database window.
- Click on the "Delete fastener" button.

The following warning appears.



- If you want to cancel the operation, actuate the "Cancel" button.
- If you want to execute the operation, select "OK".

### Creating a sequence

The Sensomaster software allows you to create sequences and transfer them to the internal memory of the torque wrench. A sequence allows you to group together the fasteners from the fastener database and put them into the desired order. This enables complex joints to be carried out on a structured basis.

- ❗ The database of the Sensomaster software does not contain any entries on installation.

If you have not yet saved any fasteners in the fastener database, create the desired fasteners first as described on page 22 .

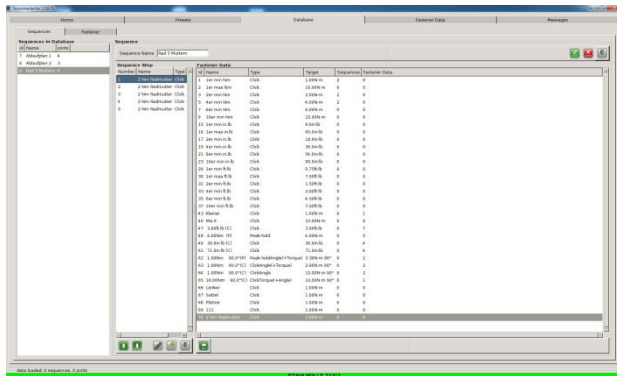
You can also create the fasteners you require at the same time when you create a sequence.

### Creating a sequence from existing fasteners

To create a sequence from the fasteners contained in the fastener database, proceed as follows:

- Select the "Database" tab.
- Select the "Sequences" tab.





The fasteners saved in the fastener database are displayed for you in the "Fastener Data" area.

The fasteners contained in the sequence are displayed for you in the defined order in "Sequence Step". The name, type and target value are also displayed as standard. You can also use additional options by calling up the context menu.

The available sequences contained in the database are displayed for you in the "Sequences in Database" area.

- Enter a name for the sequence in the "Sequence" field.
- Go to the "Fastener Data" area and mark the fastener you wish to add to the sequence.
- Click on the "Add" button.

The fastener is added to the "Sequence Step" area.

- Add all required fasteners to the "Sequence Step" area.

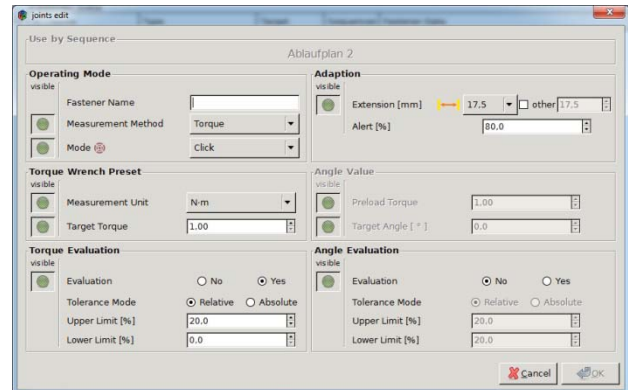
- To save the sequence, click on the "OK" button.

The sequence is added to the database. The name of the sequence which has been added is displayed in the "Sequences in Database" area.

## Creating fasteners in the sequence

Whenever you create a sequence, you can use not just the fasteners from the fastener database but also create new fasteners at the same time as well.

- To create a new fastener in the process of creating a sequence, proceed as follows:
- Click on the "New" button.



- ❗ Data is entered in virtually the same way as for the "Direct Presets" tab, see page 19. The difference is that the function for masking out and showing entries in the menu is deactivated.

The fastener which has been created is added to the sequence and the fastener database.

## Making changes to an existing sequence

To make any changes to a sequence already contained in the database, proceed as follows:

- Select the "Database" tab.
- Select the "Sequences" tab.
- Mark the desired sequence in the "Sequences in Database" area.
- To delete a fastener from the sequence, mark the joint in the "Sequence Step" area.
- Click on the "Delete fastener from sequence" button.



The fastener is deleted from the sequence.

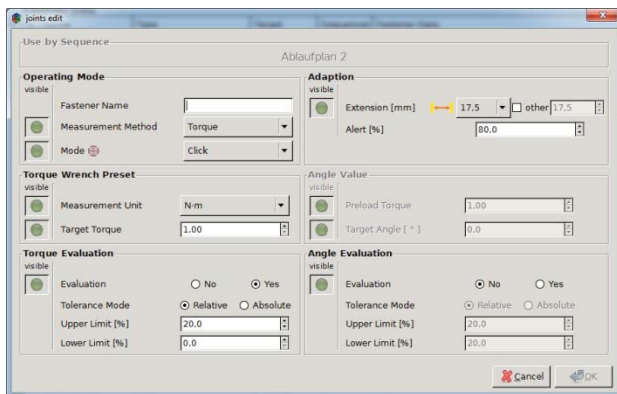
- To cancel the operation without saving, click on the "Cancel" button.
- To save the sequence with the changes, click on the "OK" button.

To make any changes to the order of the fasteners in the sequence, proceed as follows:

- Mark the desired fastener in the "Sequence Step" area.
- To move the fastener upwards, click on the "Move up" button.
- To move the fastener downwards, click on the "Move down" button.
- To save the sequence, click on the "OK" button.

To make any changes to a fastener in an existing sequence, proceed as follows:

- Mark the desired fastener in the "Sequence Step" area.
- Click on the "Edit selected fasteners" button.



- ① Data is entered in virtually the same way as for the "Direct Presets" tab, see page 19. The difference is that the function for masking out and showing entries in the menu is deactivated.
- ① If you carry out any changes here, you change the fastener in the fastener database.

To ensure that you do not make any unintended changes to a fastener in the database, proceed as follows:

- First create a copy of the fastener in the fastener database.
- Make the changes to it as you require.
- Then substitute the fastener in the sequence.

## Transferring sequences to the torque wrench

To transfer a sequence to the internal memory of the torque wrench, proceed as follows:

- Select the "Home" tab.

The available sequences contained in the database are displayed for you in the "Sequences in Database" area.

The available sequences contained in the internal memory of the wrench are displayed for you in the "Sequences in Wrench" area.

- Mark in the "Sequences in Database" area the sequence you wish to transfer to the torque wrench.

- Click on the "Add" button.

The sequence is displayed in the "Sequences in Wrench" area.

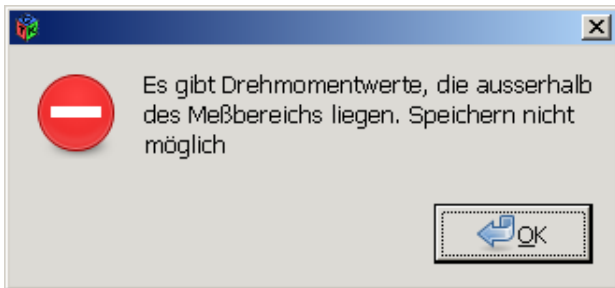
- To save the settings, click on the "Save" button.

The following warning appears.



- If you want to cancel the operation, click on the "Cancel" button.

If the sequence contains values which are outside the torque range of the connected torque wrench, the following message is displayed:



The sequence is not transferred.

- To save the settings, click on the "Save" button.
- The following warning appears.



- If you want to cancel the operation, click on the "Cancel" button.

To delete a sequence in the torque wrench, proceed as follows:

- Select the "Home" tab.
- Mark the sequence you wish to delete in the "Sequences in Wrench" area.
- Click on the "Delete" button.

To copy a sequence from a torque wrench and add it to the database, proceed as follows:

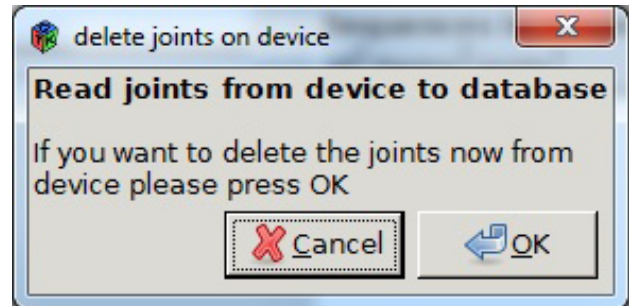
- Select the "Home" tab.
- Mark the sequence you wish to copy in the "Sequences in Wrench" area.
- Click on the "Copy" button.

The sequence is copied to the database.

## Managing fastener data

### Transferring fastener data

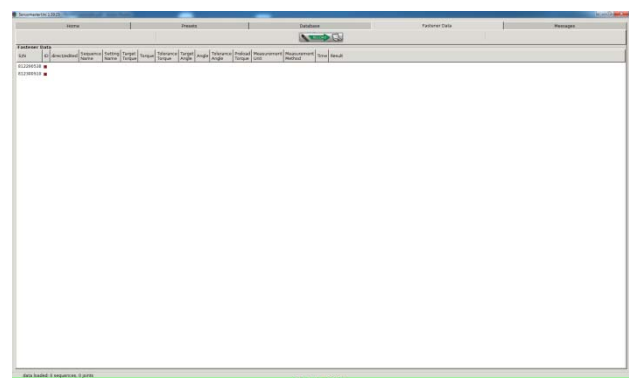
Every time the torque wrench is connected to the PC, the sequences saved in the torque wrench are transferred to the PC. The following prompt appears.



- If you want to delete the saved fastener data from the torque wrench, click on the "OK" button.
- If you do not want to delete the saved fastener data in the torque wrench, click on the "Cancel" button.

### Displaying the fastener data

- To display the fastener data, select the "Fastener Data" tab.



The "Fastener Data" area contains a list displaying information. You can have the following information displayed for each of the completed fasteners:

Designation	Explanation
ID	Database ID of the fastener
S/N	Serial number of the torque wrench which was used for carrying out the fastener
direct/edited	direct: The fastener was carried out in direct input mode edited: The fastener was carried out with a sequence
Sequence Name	The name of the sequence in which the fastener was carried out
Setting Name	The name of the fastener
Target Torque	Target value for the torque
Torque	Executed torque
Tolerance Torque	Tolerance range for the target torque
Target Angle	Target value for the angle
Angle	Executed angle
Tolerance Angle	Tolerance range for the target angle
Preload Torque	Preload Torque
Measurement Unit	Set unit
Measurement Method	Measurement method used

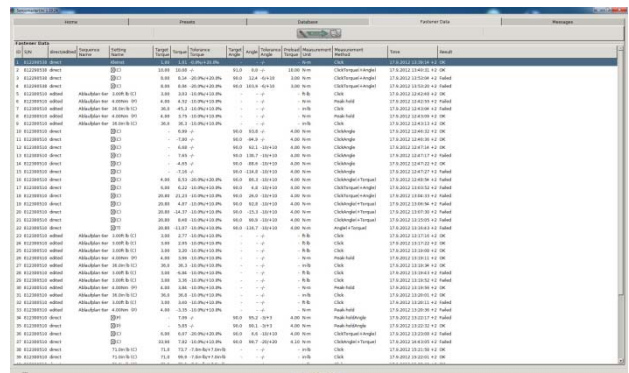
Designation	Explanation
Time	The date and time when the fastener was executed
Result	Evaluation of the fastener: OK: acceptable Failed: not acceptable

The existing fastener data are sorted on the basis of the serial number as standard. To display the information saved under the fastener data, you have to sort the fastener data according to the "ID".

➤ Open the context menu.

➤ Select the "Visible Columns/ID" entry.

The "ID" column is displayed.



## Exporting fastener data

To export fastener data, proceed as follows:

➤ Select the "Fastener Data" tab.

➤ Open the context menu.

➤ To export fastener data to an XLS file, select the "Export to XLS" entry.

➤ To export fastener data to an CSV file, select the "Export to CSV" entry.

➤ Specify the export location in the window displayed.

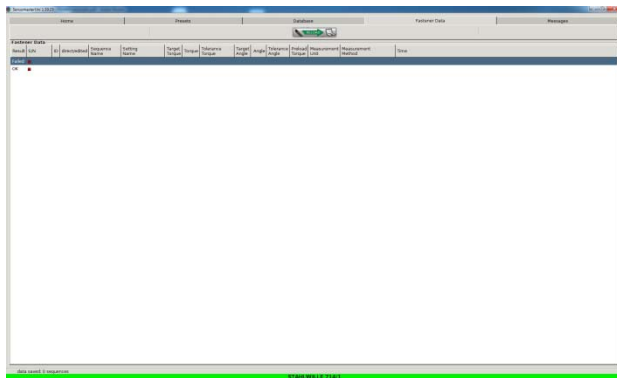
❗ To be able to open the exported file the applicable programme, e. g. Microsoft Excel must be installed.

## Sorting fastener data

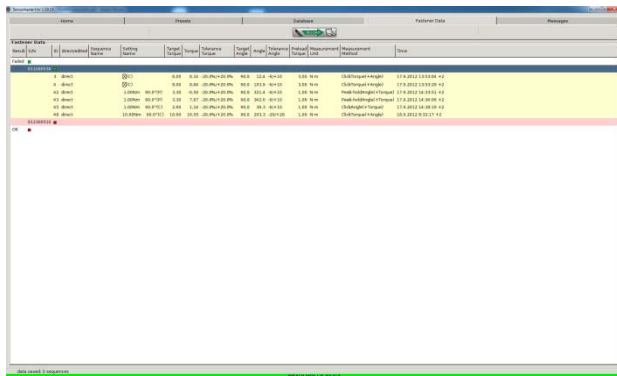
You can have the fastener data sorted according to certain criteria. For example, all fasteners which failed.

➤ To do so, double-click on the "Results" column designation.

The fasteners are sorted on the basis of those which were OK and those which failed.



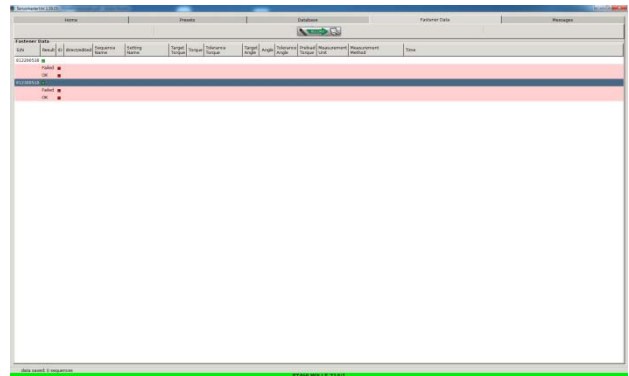
➤ To obtain further information, click on the red plus symbol.



All fasteners which failed are displayed. You can therefore now find out why the fastener failed and take appropriate action accordingly.

➤ You can also now apply further sorting criteria to the sorting result, e. g. by double-clicking on the column with the serial number S/N.

As a result you are shown all the fasteners which failed, sorted on the basis of the serial number of the torque wrench used.



➤ To return to the original view, open the context menu.

➤ Select the "Reset order" entry.

## Displaying messages

The "Messages" tab shows you the following information:

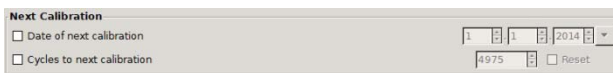
- A list of the messages issued on the torque wrench, including detailed information such as the date and time
- The number of cycles completed up to the current time
- The four top loads, with date and time

## Setting the date for calibration

The period of time for calibration arises from the test equipment monitoring procedures defined within your company (e.g. ISO 9000 ff). If test equipment monitoring is not undertaken within your company, have the torque and angle wrench calibrated or adjusted after a maximum of 12 months starting from initial use or after 5000 triggering processes (DIN EN ISO 6789).

After the torque wrench has been calibrated you have to set the next date for calibration or a maximum number of cycles until the next calibration.

- Select the "Presets" tab.
- Select the "Device Settings" tab.
- If you want to set a date for calibration, mark the "Date of next calibration" checkbox in the "Next Calibration" area.
- Enter the date for calibration using the keyboard or the arrows adjacent to the fields.



- Alternatively you can click on the button with the downward arrow and select a date for calibration from the calendar which opens.
- If you want to set a maximum number of cycles, mark the "Cycles to next calibration" checkbox in the "Next Calibration" area.
- Mark the "Reset" checkbox.
- Enter the number of cycles using the keyboard or the arrows adjacent to the field. You can enter a maximum of 30,000 cycles.
- To save the settings, click on the "Save" button.

The following warning appears.



- If you want to cancel the operation, click on the "Cancel" button.

The torque wrench switches off and then on again. The changes which were made will have been saved.